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A GRILLE FOR SECURITY INSTITUTIONS

The present invention relates to a grille for security institutions.

5 BACKGROUND OF THE INVENTION

The term "security institution" is intended to refer to penal facilities and mental health facilities where, for the protection of the public, persons under the care of the institution must be confined. Grilles are gratings which cover
10 openings. In this context we are primarily concerned with air grilles, that cover air flow openings in the ventilation system. Air grilles intended for installation in such security institutions must be of reinforced construction in order to prevent the escape of the inmates. An ongoing problem with
15 such air grilles has been the propensity of some inmates to inflict injury upon themselves by suspending themselves from the air grilles. A number of deaths have occurred as a result of such "hangings". The inmates hang themselves from the air grilles by threading a makeshift rope made of braided material
20 through an air passage, up over a structural member of the air grille and back down where it can be tied.

SUMMARY OF THE INVENTION

What is required is a grille which will render it
25 extremely difficult, if not impossible, for inmates to thread a makeshift rope through a passage for the purpose of inflicting personal injury upon themselves by "hanging".

According to the present invention there is provided a grille for security institutions which is comprised of a body
30 having two opposed faces. At least one passage extends through the body between the opposed faces. The passage has at least two changes in direction defining a generally zig zag course. When rope-like suspension means are inserted into the passage the series of direction changes severely limit the ability of
35 a person to thread the rope-like suspension means through the passage.

Although beneficial results may be obtained through the use of the grille as described, another method inmates have

used in the past to secure a rope for the purpose of hanging themselves is to attach an object (such as a handle of a knife, fork or spoon) to a makeshift rope, extend the object partially through one of the air passages and then lodge the object sideways in the air passage such that the rope is suspended from the lodged object. Even more beneficial results may be obtained if care is taken in the cross-sectional dimensions of the passage to severely restrict the shape of object that can be inserted into the passage and the ability of a person to lodge such object transversely in the passage. The preferred shapes are circles or elongate slots.

BRIEF DESCRIPTION OF THE DRAWINGS

These and other features of the invention will become more apparent from the following description in which reference is made to the appended drawings, wherein:

FIGURE 1 is a cut away perspective view of a preferred embodiment of a grille constructed in accordance with the teachings of the present invention.

FIGURE 2 is a cut away perspective view of an alternate embodiment of a grille constructed in accordance with the teachings of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

The preferred embodiment, a grille for security institutions generally identified by reference numeral 10, will now be described with reference to **FIGURES 1 and 2**.

Referring to **FIGURES 1 and 2**, there are illustrated two alternate preferred embodiments of grille 10. Both alternate embodiments of grille 10 consist of a body 12 having two opposed faces 14 and 16. In **FIGURE 1**, a plurality of passages 18 extend through body 12 between opposed faces 14 and 16. Each of passages 18 has a plurality of changes in direction defining a generally zig zag course, as identified by reference numerals 18a, 18b, 18c, and 18d. In **FIGURE 2**, a plurality of

passages 20 extend through body 12 between opposed faces 14 and 16. Each of passages 20 has a plurality of changes in direction defining a generally zig zag course, as identified by reference numerals 20a, 20b, 20c, and 20d. The difference
 5 between passages 18 as illustrated in **FIGURE 1** and passages 20 as illustrated in **FIGURE 2** lies in the cross-sectional dimension of the respective passages. As is apparent from a review of ~~the figures~~ ^{Figures 1 and 2,} passage 18 is generally circular and passage 20 is in the form of an elongate slot. ²⁴

The use and operation of grille 10 will now be described. When a makeshift rope, string, wire, or other rope-like suspension means are inserted into passages 18 or 20 the series of direction changes (18a, 18b, 18c, 18d or 20a, 20b, 20c, 20d)
 15 severely limit the ability of a person to thread the rope-like suspension means through passage 18 or 20. If the rope-like suspension means cannot be threaded through the passage, the primary method of securing the rope for the purpose of hanging oneself is eliminated. The cross-sectional dimensions
 20 selected severely restrict the shape of object that can be inserted into either passage 18 or 20 and the ability of a person to lodge such object transversely in either passage.

It will be apparent to one skilled in the art that
 25 modifications can be made to the illustrated embodiments without departing from the spirit and scope of the invention as defined in the claims. Although each of the alternate embodiments show a plurality of passages, only one passage is required. Although each of the alternate embodiments show a
 30 plurality of direction changes, two direction changes would be sufficient to make it difficult to thread a rope through the passage. Although the circular and elongate slot are preferred shapes for the cross-sectional areas of the passages, an elliptical shape would also be suitable.

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